

Language Proficiency and Digital Literacy-Related Correlates Among Senior High School Students in Pangasinan

Prescila G. Llamas
University of Luzon
prescilagllamas9@gmail.com

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ABSTRACT

This study examined the relationship between digital literacy and language proficiency among 1,325 Senior High School students in the Pangasinan II Division during the 2024–2025 academic year. Using a quantitative design that combined descriptive, correlational, comparative, and developmental approaches, the study assessed students' reading and writing proficiency alongside three dimensions of digital literacy: frequency of online information consumption, proficiency in digital writing tools, and critical evaluation of online sources. Findings showed that students demonstrated a very good level of language proficiency and a generally high level of digital literacy. Results further revealed a strong and statistically significant

positive relationship between digital literacy and language proficiency ($r = 0.785$, $p < 0.01$), indicating that students with stronger digital literacy also tended to perform better in reading and writing. No significant differences were found across districts in either language proficiency or digital literacy. Based on these findings, the study proposed an ICT-Enhanced Language Proficiency Development Framework to strengthen students' reading and writing skills through purposeful integration of digital tools and practices.

Keywords: *language proficiency, digital literacy, reading skills, writing skills, senior high school students, ICT integration, Pangasinan II Division*

INTRODUCTION

In the global education landscape, language proficiency and digital literacy are increasingly regarded as foundational competencies for 21st-century learners. International frameworks, such as UNESCO's Global Framework of Reference on Digital Literacy Skills (2021), assert that contemporary literacy entails both linguistic competence and digital fluency. As digital technologies continue to transform how knowledge is created, accessed, and disseminated, students must possess the ability to comprehend, evaluate, and produce information across both conventional and digital modalities. This paradigm shift highlights the necessity of developing reading and writing skills in parallel with the ability to navigate digital platforms, as these competencies are interdependent and mutually reinforcing.

A comprehensive pedagogical framework that integrates language proficiency with digital literacy reflects this evolving educational imperative. Within such a framework, digital literacy is conceptualized not merely as a set of technical abilities but as a multidimensional construct encompassing cognitive, communicative, and socio-cultural skills that enhance language acquisition and use. The capacity to critically assess digital content, interpret multimodal texts, and engage in collaborative online

communication contributes significantly to learners' development of vocabulary, comprehension, and academic expression. Conversely, linguistic proficiency facilitates effective navigation of digital environments, enabling students to interact meaningfully with diverse online content and platforms.

This integrated framework advocates for a transformative instructional approach in which digital tools are embedded within core language instruction. Rather than serving as peripheral supports, technologies such as blogging platforms, multimedia production tools, e-portfolios, and online peer-review systems are employed as central components of the teaching and learning process. These tools foster dynamic and authentic language use while simultaneously cultivating digital competencies.

Ultimately, the framework underscores the need for educational systems to design and implement curricula that explicitly connect language learning objectives with digital literacy outcomes. By doing so, educators can better equip students with the requisite skills to engage critically and effectively in digitally mediated academic, professional, and civic contexts. This alignment ensures that learners are not only proficient communicators but also informed and responsible digital citizens.

Moreover, the global shift to remote and hybrid learning, particularly during and after the COVID-19 pandemic, has amplified the urgency to strengthen digital language education. The OECD's Programme for International Student Assessment (PISA) 2022 results revealed that students with strong digital literacy skills outperformed their peers in reading and writing assessments conducted through digital interfaces (OECD, 2023). Countries like Singapore and Finland have adapted their curricula to integrate critical digital reading, source evaluation, and multimodal composition—skills now essential in academic, workplace, and civic contexts (Nguyen et al., 2020). This evolving paradigm compels nations to redefine language proficiency to include the capacity to engage meaningfully with digital texts.

At the same time, global assessments continue to raise concerns about equity in access to digital education. Studies indicate that learners from underprivileged backgrounds often lack the infrastructure, connectivity, and guided instruction necessary to fully benefit from digital learning environments (World Bank, 2022). These digital divides significantly affect students' ability to develop both linguistic and technological fluency, especially in low- and middle-income countries. Consequently, global education strategies now emphasize inclusive digital learning ecosystems that support foundational literacies across all socioeconomic groups.

In the Philippine educational landscape, language proficiency—especially in English—remains a national priority. As the medium of instruction across most content areas and a global academic lingua franca, English proficiency is closely tied to students' academic and professional success. Policy instruments such as DepEd Order No. 36, s. 2006, seek to strengthen English language teaching by embedding reading and writing skills in all learning areas. However, national assessments such as the NAT and PISA have consistently indicated gaps in learners' ability to comprehend and produce coherent academic texts, particularly in reading comprehension and written expression (DepEd, 2020).

Parallel to the push for English proficiency, the Philippines has made strides in integrating digital technology into education. Initiatives such as DepEd's ICT4E Strategic Plan and the more recent Digital Rise Program are designed to promote digital literacy across grade levels. DepEd Order No. 78, s. 2010, explicitly calls for the use of ICT in basic education to improve learning outcomes. Nonetheless, implementation remains inconsistent. A study by Manlapig and Francisco (2021) found that while ICT infrastructure exists in many schools, effective integration into classroom instruction—particularly in language subjects—is often limited by teacher preparedness and lack of contextualized digital resources.

Recent national surveys have also highlighted critical gaps in students' digital writing skills and online source evaluation, particularly in public schools (Santos & Zhou, 2023). The sudden shift to online learning during the COVID-19 pandemic magnified these challenges, as many students struggled with composing academic outputs through digital platforms and discerning credible information. These findings underscore the necessity of developing a curriculum that tightly links digital competencies with language

instruction, ensuring that students can write, research, and communicate effectively in both print and digital environments.

Locally, within the Pangasinan II Division, observations, performance tasks, and formative assessments have revealed persistent challenges among Senior High School students in essential academic competencies. Many learners continue to struggle with constructing coherent paragraphs, summarizing texts accurately, and evaluating online content with critical discernment. These deficiencies reflect broader concerns regarding students' language proficiency—particularly in reading comprehension and written expression—which are fundamental to academic success across subject areas.

Simultaneously, classroom observations and teacher feedback have identified significant gaps in students' digital literacy. A considerable number of learners demonstrate only basic proficiency in using digital platforms such as word processors, citation generators, or collaborative editing tools like Google Docs. These tools are essential not only for language-based outputs but also for meeting the demands of 21st-century learning and assessment modalities. The lack of familiarity with such digital tools inhibits students' ability to compose well-organized academic texts, conduct digital research, and participate effectively in online learning environments (Kim & Gil, 2023).

These local issues in Pangasinan II signal the urgent need to re-examine the integration of digital skills in language education. Inadequate access to training, varying teacher competencies, and insufficient school-based infrastructure may also contribute to the inconsistent development of these foundational skills. Without targeted intervention, these limitations may continue to impede students' performance in both classroom-based and national assessments.

This study, which focused on the interplay between digital literacy and language proficiency, offers significant potential to transform language education in the division. By identifying specific areas of difficulty, the study will help educators and administrators develop more responsive instructional practices and learning support systems. It also reinforced the need for a curriculum that explicitly links digital competencies with reading and writing instruction. Ultimately, the results of this study informed the design of an ICT-enhanced Language Development Framework—one that was data-driven, context-specific, and adaptable to the diverse learning needs of Senior High School students in Pangasinan II.

This study aimed to determine the association between digital literacy and language proficiency of Senior High School students in the Pangasinan II Division, with the end in view of developing an ICT-enhanced upskilling program for reading and writing skills. Specifically, it sought to assess the level of students' language proficiency in terms of reading and writing, and to determine the extent of their digital literacy in terms of frequency of online information consumption, proficiency in digital writing tools, and critical evaluation of online sources. Furthermore, the study examined the significance of the relationship between language proficiency and digital literacy, as well as the differences in these variables when grouped according to districts. Based on the findings, the study aimed to design an ICT-enhanced language development framework to improve students' reading and writing skills.

Conceptual Framework

This study is grounded in a multidisciplinary framework integrating cognitive, sociocultural, linguistic, and multiliteracies perspectives to examine the relationship between digital literacy and language proficiency among Senior High School students. It draws on Cognitive Information Processing Theory (CIPT), Sociocultural Theory, the Multiliteracies Framework, Constructivist Theory, and the TPACK framework to explain how digital tools support reading and writing development.

CIPT explains how learners process, store, and retrieve information, with digital tools serving as cognitive scaffolds that enhance higher-order thinking and metacognitive skills (Anderson, 2018). Sociocultural Theory highlights the role of interaction and collaboration in language learning, facilitated through digital platforms that enable meaningful communication (Vygotsky, 2022). The Multiliteracies Framework expands literacy to include multimodal and digital competencies, emphasizing critical

engagement with online content (Cope & Kalantzis, 2020). Constructivist Theory further supports the active role of learners in constructing knowledge through technology-mediated environments (Bruner, 2022).

The study assumes that digital literacy significantly influences language proficiency, particularly in reading and writing. Digital literacy is operationalized through frequency of online information consumption, proficiency in digital writing tools, and critical evaluation of online sources. Language proficiency, as the dependent variable, is measured through reading and writing skills. The framework posits that increased exposure to digital content, effective use of writing tools, and critical engagement with information enhance comprehension, vocabulary, and written communication.

Additionally, the TPACK framework supports the integration of technology, pedagogy, and content knowledge to ensure effective instructional practices (Mishra & Koehler, 2006). Guided by these theoretical foundations, the study proposes an ICT-enhanced language proficiency framework aimed at improving students' academic communication skills in the digital age.

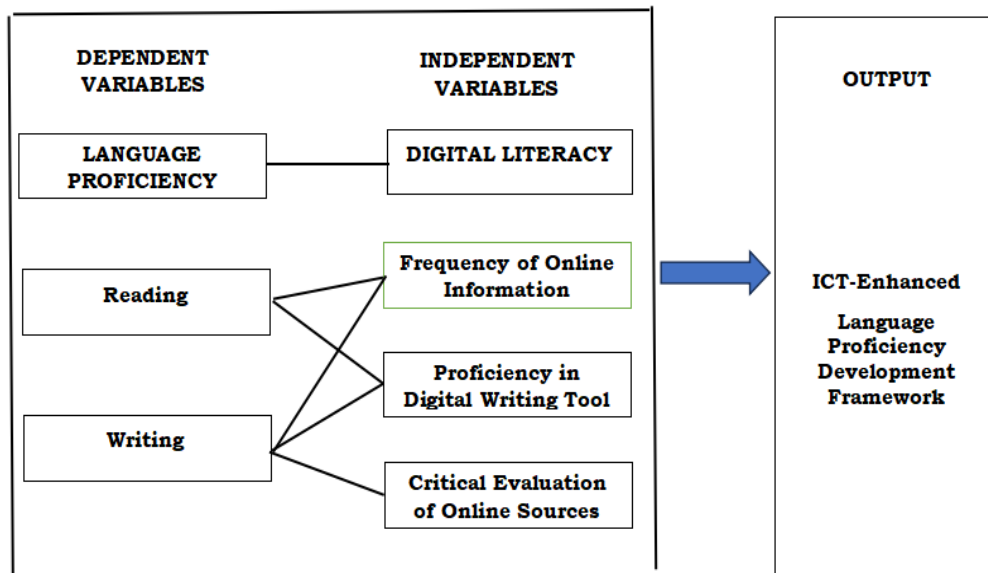


Figure 1. *Research Paradigm of the Study*

Literature Review

Language Proficiency of Students

Language proficiency encompasses the capacity to comprehend, interpret, and produce language effectively across various contexts. It is widely recognized as a critical component of academic achievement, especially in the domains of reading and writing. Jim Cummins conceptualizes this through his framework of Cognitive Academic Language Proficiency (CALP), which emphasizes the mastery of academic discourse and higher-order language skills as essential for success in formal education settings (Cummins).

Jerome Bruner's Constructivist Theory supports the notion that learners actively construct meaning through exploration and interaction within language-rich environments. According to this view, reading and writing tasks serve not only as vehicles for information but also as opportunities for students to engage in reflective, recursive learning processes (Bruner). Meaningful learning, therefore, occurs when learners synthesize information and express their understanding through structured communication.

Stephen Krashen's Input Hypothesis further informs language acquisition, proposing that learners internalize language more effectively when exposed to input that is slightly beyond their current level of competence—what he terms “i+1.” This suggests that instruction should include texts and discourse that challenge learners appropriately, allowing them to bridge existing knowledge with new linguistic structures (Krashen). Digital tools that offer interactive reading materials or AI-enhanced feedback systems can support this scaffolding function.

Adding to the cognitive and linguistic dimensions, Lourdes Ortega offers a socio-cognitive perspective on second language development. She posits that language learning is not merely an individual cognitive act but one deeply embedded in social interaction, cultural context, and learner agency (Ortega). This aligns with contemporary pedagogies that emphasize collaborative learning environments and the integration of authentic communication tasks into instruction.

Finally, the Multiliteracies Framework developed by Bill Cope and Mary Kalantzis extends the traditional view of literacy by advocating for the development of multiple modes of meaning-making—textual, visual, digital, and cultural. In today's multimodal environment, students are expected not only to read and write effectively but also to critically engage with various forms of media and communication technologies (Cope and Kalantzis). This theoretical orientation underpins the study's inclusion of digital literacy components, such as the use of digital writing tools and online content evaluation.

Collectively, these theories provide a robust conceptual foundation for understanding language proficiency as a dynamic, multifaceted construct shaped by cognitive, social, and technological influences. They also justify the need for instructional models—like the ICT-Enhanced Language Proficiency Development Framework—that respond to the evolving demands of 21st-century communication and education.

Reading Skills and Writing Skills

Language proficiency, particularly in reading and writing, is recognized as a fundamental competency for academic achievement and lifelong learning. It is conceptualized as the integrated development of comprehension, expression, and critical interpretation through both receptive (reading) and productive (writing) language skills. In academic contexts, these skills are not taught in isolation but are interdependent and often reinforced through dynamic, multimodal learning environments (Cope and Kalantzis).

Contemporary perspectives on literacy education emphasize the convergence of cognitive development and digital engagement. The Multiliteracies Framework, introduced by Cope and Kalantzis, advocates for expanding traditional notions of literacy to include digital, visual, and cultural literacies. This framework underscores the need for learners to navigate complex, multimodal environments in which meaning is co-constructed across diverse media platforms (Cope and Kalantzis). Language proficiency, in this regard, is not solely defined by conventional reading and writing tasks, but also by learners' capacity to engage critically with digital texts and media.

Cognitive and constructivist theories further illuminate the internal processes behind language learning. Bruner's Constructivist Theory posits that learners actively construct knowledge through exploration, reflection, and problem-solving, especially in contexts that involve meaningful text interaction and composition (Bruner). In writing, this process involves organizing ideas, revising drafts, and applying grammar rules—all of which are fostered through environments that allow for student agency and active participation.

Krashen's Input Hypothesis also contributes to the conceptual understanding of language acquisition by emphasizing the role of comprehensible input in developing linguistic proficiency. Learners progress when exposed to language slightly beyond their current level of understanding, often facilitated by reading texts that challenge but do not overwhelm them (Krashen). Such exposure promotes the natural internalization of language patterns and structures, particularly when paired with authentic tasks.

From a sociocultural lens, Vygotsky's theory highlights that language learning is inherently a social process, mediated by tools, signs, and interactions within cultural contexts. This view aligns with instructional designs that emphasize peer collaboration, teacher scaffolding, and contextualized learning activities, particularly those involving digital platforms and online communication tools (Vygotsky). Language proficiency, therefore, evolves not only from cognitive effort but also from socially situated practices.

Moreover, Ortega offers a socio-cognitive perspective, asserting that second language development is shaped by interaction, learner identity, and contextual factors. According to this view, both reading and writing are deeply influenced by the learner's engagement with texts, tasks, and peers, particularly in digital learning environments where multimodal texts are prevalent (Ortega). This perspective complements current efforts to integrate ICT in language classrooms, recognizing that technology enhances—not replaces—the social and cognitive dimensions of learning.

The process of writing is also influenced by metacognitive and self-regulatory practices. Theories of self-regulation emphasize that writing development benefits from students' ability to plan, monitor, and reflect on their own performance. When students engage in revision, goal-setting, and self-assessment, they improve not only the mechanics of writing but also their confidence and autonomy as learners (Zimmerman).

Finally, holistic approaches to language education advocate for the integration of emotional and motivational components alongside skill development. Emotional engagement and learner mindset are often linked to persistence in reading and writing tasks, suggesting that language proficiency is both a cognitive and affective endeavor. As such, creating emotionally supportive environments, promoting motivation, and encouraging risk-taking in language production are central to theoretical models of literacy growth (Dörnyei).

Digital Literacy

Digital literacy refers to an individual's capacity to locate, evaluate, and utilize digital information and tools effectively across academic and real-world contexts. As conceptualized by Ng, digital literacy comprises three essential dimensions: technical, cognitive, and socio-emotional. These dimensions are interrelated and foundational to successful engagement in digital learning environments (Ng).

The Multiliteracies Framework, introduced by Cope and Kalantzis, broadens the definition of literacy to encompass multimodal communication and cultural diversity. It emphasizes that digital users must not only read and write but also interpret, navigate, and synthesize information across various platforms and media formats (Cope and Kalantzis). This framework supports the view that digital literacy is no longer optional but central to contemporary education.

Prensky conceptualizes digital natives as learners inherently familiar with technology, suggesting that their learning preferences are shaped by continuous exposure to digital environments. This perspective underscores the need for pedagogy that aligns with the media habits and expectations of today's students (Prensky).

Coiro adds a cognitive dimension to digital literacy, emphasizing the importance of comprehension, inferencing, and critical analysis when engaging with digital texts. She argues that digital readers must develop nonlinear reading strategies and metacognitive skills to evaluate and synthesize online content meaningfully (Coiro).

In addition, the construct of critical digital literacy involves not only technical competence but also the ability to assess the credibility, bias, and relevance of digital information. Audrin and Audrin propose that learners must be taught how to question and analyze digital content, particularly in a landscape saturated with misinformation and algorithm-driven content flows (Audrin and Audrin).

Digital literacy is also closely tied to learner autonomy and self-regulated learning. Theories of self-efficacy and digital agency posit that students who believe in their ability to navigate digital

environments are more likely to engage productively with learning tasks and persist through challenges. These constructs highlight the motivational and behavioral dimensions of digital literacy (Zimmerman; Bandura).

Together, these theoretical perspectives suggest that digital literacy is a complex, multifaceted competency that supports academic learning, fosters independent thinking, and prepares learners for full participation in a digital society.

Association Between Language Proficiency and Digital Literacy

The relationship between language proficiency and digital literacy is fundamentally reciprocal and multidimensional. Digital literacy provides the cognitive and technical tools necessary for accessing, processing, and engaging with varied linguistic content across digital environments. This, in turn, enhances linguistic competencies such as vocabulary development, syntactic awareness, and higher-order comprehension. Conversely, language proficiency serves as a foundational component that enables individuals to effectively interpret, evaluate, and produce content within digital platforms and multimodal texts (Pangrazio et al.).

From a theoretical standpoint, language proficiency functions as a mediating factor in the development of digital literacy. It informs the user's capacity to engage critically with digital texts, utilize search and evaluation strategies, and participate in digital communication with clarity and coherence (Audrin and Audrin). Theoretical frameworks in digital pedagogy assert that literacy development in the digital age must involve both linguistic and digital skill acquisition, recognizing that each informs and amplifies the other.

Additionally, digital literacy is influenced by learners' language backgrounds, socio-cultural contexts, and prior educational experiences. These factors shape digital learning behaviors, metacognitive strategies, and the perceived relevance of technology-enhanced tasks. Theoretically, this aligns with sociocultural and constructivist perspectives, which posit that language and learning are socially situated and culturally mediated (List).

The intersection of language proficiency and digital literacy also raises important considerations for educational equity. Theoretical discourse suggests that assessments and instructional strategies should be inclusive of linguistic diversity to ensure fairness and access across learner populations (Jin et al.). This convergence reinforces the notion that digital literacy is not a stand-alone competency but is deeply embedded in linguistic and communicative practices.

In sum, the integration of language proficiency and digital literacy is essential for fostering comprehensive and equitable educational experiences. Theoretical models support the view that these literacies are interdependent, and that their concurrent development is critical in navigating the demands of the modern learning environment.

Language Proficiency of Students

Reading proficiency is foundational to academic success, as it encompasses the ability to comprehend, interpret, and analyze written texts. Schoonen (2019) demonstrated that reading skills are closely tied to cognitive processes, particularly decoding and synthesizing textual information. This connection is evident in studies of bilingual students, such as those conducted by Bialystok et al. (2022), who found that exposure to multiple languages enhances reading comprehension and overall linguistic competence. In the Philippines, Romero and Papango (2020) critiqued the alignment of the K-12 English curriculum with international literacy standards, noting that curriculum enhancements focusing on reading comprehension could improve students' engagement and performance.

Writing Skills

Writing proficiency, which requires coherence, grammatical accuracy, and critical thinking, is equally significant. Studies by Guo (2018) emphasize the role of exposure to diverse linguistic inputs in

improving writing skills. Locally, Paglingayen et al. (2021) explored the use of interactive platforms for teaching English writing in the Philippines, highlighting that such tools foster creativity and improve writing outputs. Similarly, Cantago et al. (2024) demonstrated how digital storytelling not only enhances writing skills but also motivates students by making the writing process more interactive and engaging.

Digital Literacy

Digital literacy plays a pivotal role in modern education, as it equips students with the skills needed to navigate, evaluate, and utilize digital resources effectively. In the Philippines, Letigio and Balijon (2022) analyzed the readiness of Filipino graduates in terms of digital literacy and found a strong correlation between advanced digital skills and academic success. Cantago et al. (2024) further emphasized the importance of digital tools in enhancing student engagement and comprehension in educational settings. Globally, Garzón Artacho et al. (2020) underscored that digital competence drives innovation in teaching, making it an essential skill in contemporary education.

Sub-components of digital literacy, such as the frequency of online information consumption, proficiency in digital writing tools, and critical evaluation of online sources, have been widely studied. Coiro (2021) highlighted the significance of regular engagement with digital content for critical thinking and navigation skills. Nikou and Aavakare (2021) pointed out that proficiency in digital writing tools enhances productivity and the quality of written work, while Audrin and Audrin (2022) underscored the need for critical evaluation skills to assess the credibility and relevance of digital information in academic contexts.

Association Between Language Proficiency and Digital Literacy

The literature consistently demonstrates a strong, reciprocal relationship between digital literacy and language proficiency, where each reinforces the development of the other. Digital platforms enhance vocabulary, grammar, and comprehension skills, while interactive tools improve reading and writing performance, particularly in diverse learning contexts (Sauro & Zourou, 2019; Paglingayen et al., 2021; Salmerón et al., 2018). Global and local studies further emphasize the importance of integrating digital literacy into language curricula to improve learning outcomes and align with modern educational demands (Pangrazio et al., 2020; Romero & Papango, 2020). A key mechanism underlying this relationship is the role of metacognitive strategies, which enable learners to monitor, evaluate, and regulate their understanding in digital environments. These strategies support higher-order thinking in reading and writing, facilitating the transfer of digital skills into structured language use (Ortega; Schoonen, 2019; Guo, 2018). The findings also highlight that both language proficiency and digital literacy are essential for academic success. Reading comprehension and writing skills are strengthened through exposure to diverse digital texts, while digital competencies—such as evaluating online content and using digital tools—enhance critical thinking and productivity (Coiro, 2021; Nikou & Aavakare, 2021; Letigio & Balijon, 2022). Theoretical frameworks such as Sociocultural Theory, Constructivist Theory, and the Multiliteracies Framework further support these findings by emphasizing interactive, technology-mediated, and multimodal learning environments (Cope & Kalantzis, 2020). Empirical studies likewise affirm the effectiveness of ICT integration in enhancing learner engagement and performance, while also highlighting challenges such as the digital divide and limited functional use of technology (Sharapova, 2025; Santos & Zhou, 2023; Nguyen et al., 2020; UNESCO, 2021; Kim & Gil, 2023).

Overall, the convergence of theoretical and empirical evidence supports the study's findings that digital literacy significantly contributes to language proficiency. The present study extends existing research by providing a localized perspective and proposing an ICT-Enhanced Language Proficiency Development Framework, which integrates global theories with contextual needs to improve reading and writing skills among Senior High School students.

METHODS

Research Design

This study employed a quantitative research design integrating descriptive, correlational, comparative, and developmental approaches to examine the relationship between digital literacy and language proficiency among Senior High School students in the Pangasinan II Division. Descriptive methods were used to assess students' reading and writing proficiency through structured rubrics and to measure their level of digital literacy in terms of online information consumption, proficiency in digital writing tools, and critical evaluation of online sources (Creswell & Creswell, 2022; European Commission, 2022; Nguyen et al., 2020). A correlational design, using Pearson's Product-Moment Correlation, determined the relationship between digital literacy and language proficiency (Fraenkel et al., 2019), while a comparative approach using one-way ANOVA examined differences across districts (Ary et al., 2019). Finally, a developmental approach was employed to design an ICT-enhanced language development framework based on the findings, aligned with the TPACK framework and DepEd's Digital Rise Program (Mishra & Koehler, 2020; DepEd, 2020).

Locale of the Study

This study was conducted in the Pangasinan II Division during the academic year 2024–2025 to evaluate the digital literacy and language proficiency of Grade 11 Senior High School students. The research covered eighteen selected national high schools strategically chosen to represent the division's diverse educational landscape. These schools provide a balanced cross-section of urban and rural populations, reflecting varying levels of access to digital tools, infrastructure, and educational resources. Their geographic and demographic diversity allowed for a comprehensive analysis of students' competencies and enabled the examination of how contextual factors influence digital literacy and language proficiency.

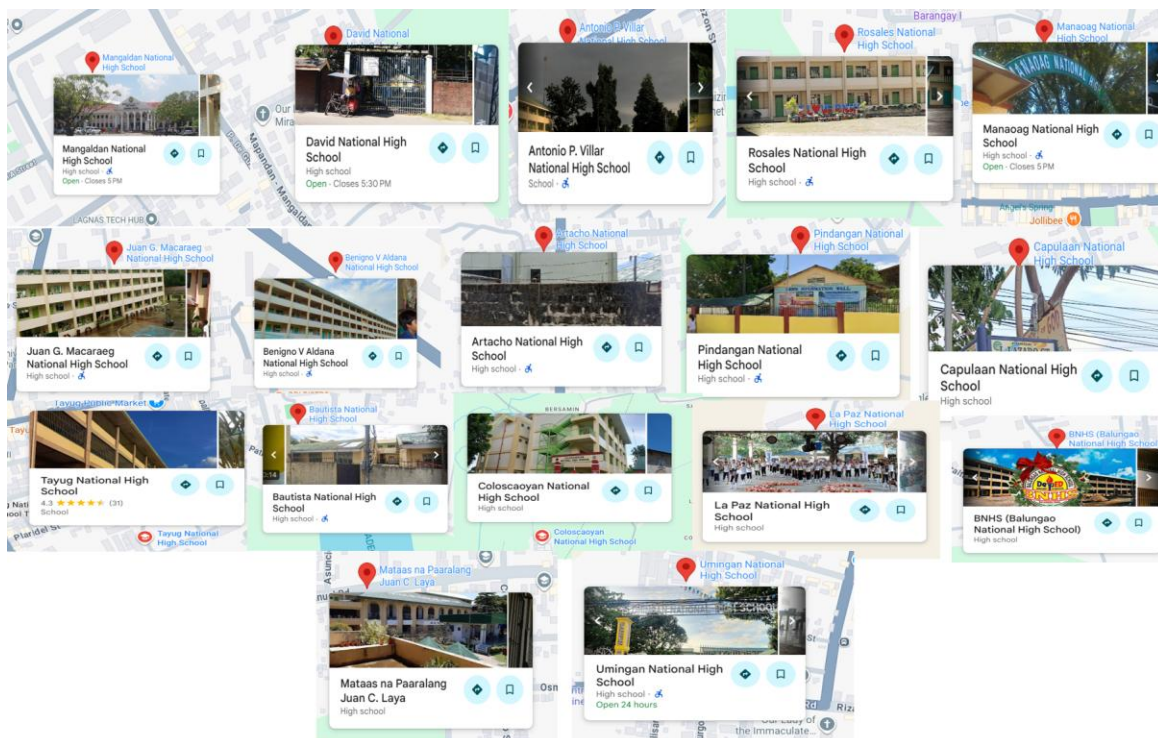


Figure 2. Site Map of the Study

Participants and Instrumentation

The population of this study consisted of all Grade 11 Senior High School students enrolled during the academic year 2024–2025 in eighteen purposively selected national high schools within the Pangasinan II Division. These schools were chosen to represent a balanced mix of urban and rural settings, ensuring diverse student demographics and educational contexts. The respondents were drawn from these schools, with the highest proportion coming from Manaoag National High School (14.60%), enhancing the generalizability of the findings across the division. Purposive sampling was employed to select participants who met specific inclusion criteria, such as being officially enrolled Grade 11 students with access to digital tools, while excluding those outside the target group or without relevant exposure (Cohen et al., 2018; Creswell & Creswell, 2020).

The study utilized structured, researcher-developed instruments to measure language proficiency and digital literacy using five-point Likert scales. Language proficiency was assessed in terms of reading and writing skills, including comprehension, organization, and coherence, while digital literacy covered frequency of online information consumption, proficiency in digital writing tools, and critical evaluation of online sources. Additional items examined the relationship between these variables and supported inferential analyses. The same instrument was administered across three districts to allow comparative analysis using ANOVA. The instrument underwent expert validation and pilot testing, yielding a high reliability coefficient (Cronbach's alpha = 0.986), indicating strong internal consistency and suitability for data collection.

Table 1. *Distribution of Respondents*

School	Frequency	Percentage %
David National High School	42	3.20
Manaoag National High School	194	14.60
Mangaldan National High School	182	2.70
Antonio P. Villar National High School	36	2.70
Artacho National High School	29	2.20
Bautista National High School	47	3.50
Benigno V. Aldana National High School	118	8.90
Capulaan National High School	49	3.50
Caloscaoayan NHS	41	3.10
Juan G. Macaraeg NHS	116	8.80
Pindangan NHS	24	1.80
Sison Central Integrated School	15	1.10
Balungao NHS	30	2.30
La Paz National High School	90	6.80
Mataas na Paaralan Ng Juan C. Laya	101	7.60
Rosales National High School	120	9.10
Tayug NHS	44	3.30
Umingan NHS	47	3.50
Total	1325	100%

Data Gathering Procedure

The data collection process followed a systematic and ethical approach to ensure the reliability and validity of the findings. Initially, the research instrument underwent validation by four field experts and the research adviser to ensure clarity, relevance, and alignment with the study's objectives. This was followed by pilot testing among a similar group of students to assess reliability and identify any ambiguities, with results confirming high internal consistency through Cronbach's alpha. After finalizing the instrument, formal permission was secured from the Schools Division Superintendent of Pangasinan II Division. Upon approval, coordination with school heads of the eighteen selected national high schools was conducted to

facilitate the administration of the survey. The questionnaire was distributed through Google Forms with the assistance of designated school representatives to ensure efficient data collection. Throughout the process, ethical standards were strictly observed. Participation was voluntary, and respondents were informed of their rights, including confidentiality and anonymity. No personal identifiers were collected, and all data were used solely for academic purposes. This structured procedure ensured the integrity and credibility of the data gathered for the study

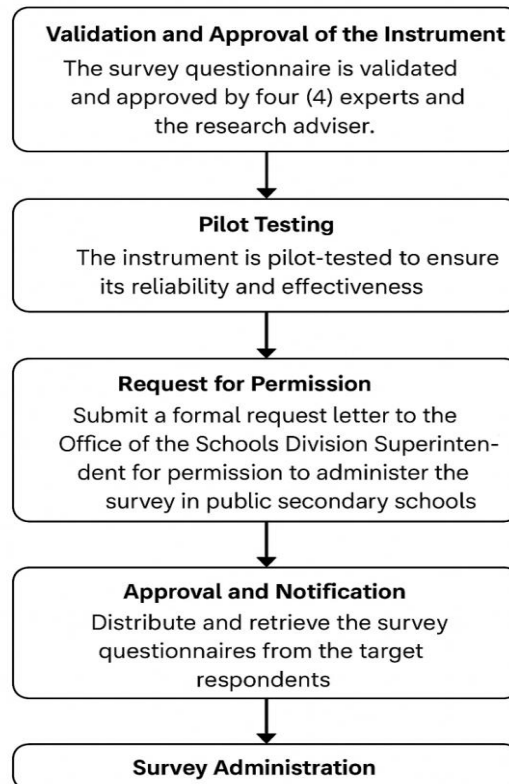


Figure 3. *Data Gathering Research Procedure*

Statistical Treatment of Data

The data gathered in this study were analyzed using appropriate descriptive and inferential statistical methods aligned with each research objective. Descriptive statistics, particularly the mean and standard deviation, were used to determine the level of language proficiency in reading and writing, as well as the extent of digital literacy in terms of online information consumption, proficiency in digital writing tools, and critical evaluation of online sources. To examine the relationship between language proficiency and digital literacy, the Pearson Product-Moment Correlation Coefficient was employed to determine the strength and direction of association between the variables. Where significant relationships were identified, regression analysis was conducted to determine which components of digital literacy predicted language proficiency outcomes. To identify differences across districts, One-Way Analysis of Variance (ANOVA) was used to test for significant variations in language proficiency and digital literacy among students from different geographic groups. Finally, the development of the ICT-enhanced language proficiency framework was based on the results of the statistical analyses, where identified trends, relationships, and gaps informed the design of targeted, technology-driven interventions to improve students' reading and writing skills.

Ethical Considerations

This study adhered to strict ethical standards to ensure the integrity of the research process and the protection of participants. Informed consent was obtained from all respondents, with participation being voluntary and withdrawal permitted at any stage without consequence. Confidentiality and anonymity were maintained by excluding personal identifiers and presenting data in aggregated form. All collected data were used solely for research purposes and handled with accuracy and transparency through appropriate statistical analyses. The principle of non-maleficence was observed by ensuring that no harm or distress was caused to participants during the study. Prior to data collection, ethical approval was secured from the appropriate institutional review board, confirming compliance with established ethical guidelines and safeguarding the rights and welfare of all participants.

RESULTS AND DISCUSSION

Level of Language Proficiency of Students

This section delves into the assessment of language proficiency among Senior High School students, with a particular emphasis on two fundamental domains: reading and writing. These areas were chosen for their critical role in academic achievement and effective communication. The evaluation was conducted through a structured self-assessment questionnaire, in which students rated their competencies based on clearly defined indicators using a standardized Likert scale. This approach allowed for the quantification of students' perceived strengths and challenges in language use, offering valuable insights into their readiness for higher education and their capacity to engage in various forms of academic and real-world discourse. The data presented herein aim to inform targeted interventions and curriculum enhancements that support the development of language skills crucial to lifelong learning and success.

Reading

To address the first sub-problem of the study, the level of language proficiency of Senior High School students in the three districts of Pangasinan II Division was assessed specifically in terms of their reading skills. The assessment focused on various components of reading comprehension, including the understanding of main ideas, inferring word meanings, identifying supporting details, evaluating the credibility of texts, and recognizing the author's purpose, among others. The results provided an empirical basis for gauging students' reading performance across districts and served as a foundational input for the development of targeted language intervention strategies.

Table 2. *Level of Language Proficiency of SHS Students in Reading*

Reading Skills	DISTRICT			Weighted Mean	SD	Descriptive Rating
	4 th N= 418	5 th N= 475	6 th N= 432			
Understanding the main ideas of a text	4.05	3.94	3.95	3.98	0.89	Very Good
Inferring the meaning of words in context	3.80	3.72	3.75	3.74	0.91	Very Good
Identifying supporting details	3.78	3.81	3.84	3.81	0.96	Very Good
Summarizing information from a passage	3.73	3.76	3.79	3.76	0.96	Very Good
Making inferences and drawing conclusions	3.67	3.61	3.67	3.65	0.97	Very Good
Distinguishing between fact and opinion	3.98	3.82	4.10	3.92	0.96	Very Good
Understanding Author's purpose and point of view	4.00	3.85	3.88	3.98	0.93	Very Good
Recognizing and analyzing tone and mode	3.87	3.73	3.86	3.82	0.97	Very Good
Identifying figurative language and literary devices	3.77	3.74	3.86	3.79	0.95	Very Good
Evaluating the credibility and reliability of a text	3.83	3.70	3.86	3.80	0.97	Very Good
Overall Mean	3.84	3.77	3.87	3.82	0.73	Very Good

Likert Scale: 5 = Excellent, 4 = Very Good, 3 Good, 2 = Fair, 1 = Poor

Legend: 4.20-5.00 = Excellent, 3.40-4.19 = Very Good, 2.60-3.39 Good, 1.80-2.59 = Fair, 1.00-1.79 = Poor

The data indicate that Senior High School students across the three districts of Pangasinan II Division demonstrated a very good level of reading proficiency, with weighted mean scores ranging from 3.65 to 3.98 and an overall mean of 3.82 (SD = 0.72). The highest performance was observed in identifying the main ideas of a text (M = 3.97; SD = 0.89), while the lowest was in making inferences and drawing conclusions (M = 3.64; SD = 0.96), suggesting challenges in higher-order interpretative skills.

These findings align with Cognitive Information Processing Theory (CIPT), which posits that reading involves encoding, retrieving prior knowledge, and generating meaning from text (Atkinson & Shiffrin). The relatively lower performance in inferential tasks indicates limitations in deeper cognitive processing, such as schema integration and working memory use, which are essential for advanced comprehension. Moreover, the results are supported by studies linking digital engagement to reading outcomes. Passive digital consumption may hinder deep processing, while active engagement—such as evaluating online sources—enhances comprehension and vocabulary development (Ermita et al.). Similarly, research by Graciano and Benablo, as well as Subaveerapandiyan and Sinha, highlights a positive relationship between digital literacy and reading proficiency. Overall, while students demonstrated strong foundational reading skills, the findings emphasize the need to strengthen higher-order comprehension abilities, particularly inferencing and evaluation. Integrating cognitively engaging digital literacy practices may further enhance reading proficiency in the digital learning environment.

Writing

To further address the first sub-problem of the study, the level of language proficiency of Senior High School students in Pangasinan II Division was also assessed in terms of their writing skills. The evaluation focused on key areas such as idea development, organization, grammar and sentence structure, vocabulary usage, coherence, and adherence to writing conventions. This assessment provided insight into the learners' ability to effectively express ideas in written form and offered empirical data to guide the formulation of targeted instructional interventions in writing.

Table 3. *Level of Language Proficiency of SHS Students in terms of Writing*

Writing Skills	DISTRICT			Weighted Mean	SD	Descriptive Rating
	4 th N= 418	5 th N= 475	6 th N= 432			
Organizing ideas logically	3.91	3.83	3.82	3.85	0.92	Very Good
Using appropriate grammar and vocabulary	3.88	3.76	3.91	3.85	0.91	Very Good
Writing cohesive and coherent paragraphs	3.67	3.63	3.70	3.66	0.95	Very Good
Editing and revising written work	3.73	3.71	3.71	3.71	0.99	Very Good
Developing a strong thesis or main idea	3.68	3.65	3.63	3.65	1.01	Very Good
Using transitions between sentences/paragraphs	3.77	3.70	3.80	3.75	0.97	Very Good
Maintaining tone, style, and voice	3.73	3.71	3.78	3.74	0.96	Very Good
Writing for different purposes	3.76	3.68	3.71	3.73	1.00	Very Good
Using credible sources and citations properly	3.73	3.66	3.72	3.70	1.03	Very Good
Proofreading for errors in spelling/ punctuation	3.85	3.72	3.88	3.81	1.03	Very Good
Overall Mean	3.77	3.70	3.77	3.75	0.76	Very Good

Legend: 4.20-5.00 = Excellent, 3.40-4.19 = Very Good, 2.60-3.39 = Good, 1.80-2.59 = Fair, 1.00-1.79 = Poor

The writing skills table revealed that Senior High School students across the three districts consistently attained weighted mean scores within the “very good” descriptive rating, with overall writing proficiency falling near the upper end of this scale. Among the sub-components, students scored highest in organization and coherence ($M \approx 3.89$, $SD \approx 0.85$), signifying proficiency in structuring sentences and presenting ideas logically. Conversely, the lowest performance emerged in vocabulary usage and grammatical accuracy ($M \approx 3.66$, $SD \approx 0.97$), hinting at occasional challenges in language precision. The overall writing mean ($M \approx 3.80$, $SD \approx 0.78$) confirmed that learners demonstrated solid competence in written communication, although certain elements required targeted pedagogical reinforcement.

This pattern mirrored expectations drawn from the Cognitive Information Processing Theory, which asserts that fluent writing depends on efficient working memory management, retrieval of linguistic resources, and the sequential organization of ideas (Atkinson and Shiffrin 93). The relatively lower performance in grammatical accuracy and vocabulary suggested constraints in cognitive load handling—particularly under complex writing tasks—consistent with CIPT’s emphasis on processing capacity.

From the conceptual perspective, these outcomes reinforced the role of digital writing tool proficiency—a key dimension of digital literacy—in supporting writing coherence and structure. Research indicated that familiarity with word processors, grammar checkers, and collaborative platforms helped students organize and refine text more effectively (Mishra & Koehler 1024). In contrast, the lack of strong rigor in grammar and vocabulary suggested that mere access to tools was insufficient; learners needed guided use of digital resources to improve linguistic precision.

Corroborating these findings, a study by Indriyani et al. (2023) demonstrated that among prospective teacher students, digital literacy and writing skills collectively and significantly influenced the quality of developed instructional materials, underscoring the synergistic relationship between digital competence and written output. Similarly, recent meta-analytical evidence reported a moderate positive correlation between comprehensive digital literacy and academic achievement in language domains (Nature Human Behaviour 2025). Another study involving undergraduate learners found that proficiency in academic digital writing tools significantly boosted writing accuracy and coherence (Scale development study, 2024).

In summary, while students exhibited strong writing proficiency in aspects such as organization and coherence, observed limitations in vocabulary usage and grammatical accuracy pointed to specific areas needing enhancement. These findings validated the interpretive framework posited by CIPT and reinforced the importance of leveraging digital writing tool competencies in intervention programs. The results suggested that embedding structured digital writing practices—such as guided use of grammar-checking software and collaborative writing platforms—into literacy instruction could elevate students’ grammatical precision and lexical richness, thereby improving overall writing performance.

Summary

This table highlights that students from all three districts consistently demonstrated a “Very Good” level of proficiency in both reading and writing. The 6th District recorded the highest overall mean in both domains, while the 5th District posted slightly lower but still commendable scores.

Table 4. *Summary on the Level of Language Proficiency of Students*

Language Domain	4th District (N = 418)	5th District (N = 475)	6th District (N = 432)	Weighted Mean	Descriptive Rating
Reading	3.84091	3.76926	3.86799	3.82393	Very Good
Writing	3.79678	3.76533	3.84907	3.80473	Very Good
Overall Mean	3.81885	3.76730	3.85853	3.81433	Very Good

Legend: 4.20-5.00 = Excellent, 3.40-4.19= Very Good, 2.60-3.39 Good, 1.80-2.59 = Fair, 1.00-1.79 = Poor

The summary results reveal that Senior High School students across the three districts of Pangasinan II Division demonstrated a consistently very good level of language proficiency, with a weighted mean of 3.82 in reading and 3.80 in writing, yielding an overall mean of 3.81. Although the 6th District recorded the highest scores and the 5th District the lowest, differences were minimal and remained within the same proficiency category.

These findings align with Cognitive Information Processing Theory (CIPT), which emphasizes the role of memory, schema activation, and cognitive organization in language tasks (Atkinson & Shiffrin). The uniformly high performance suggests that students are effectively engaging cognitive processes necessary for both reading comprehension and writing. However, slight variations across districts may reflect contextual factors such as differences in instructional practices or access to learning resources.

From a digital literacy perspective, the results support the TPACK framework, which highlights the importance of integrating technology with pedagogy and content to enhance learning (Mishra & Koehler).

The comparable proficiency levels across districts suggest that students possess relatively similar levels of digital competence, which may contribute to their performance in both reading and writing tasks. These findings are consistent with previous studies indicating a positive relationship between digital literacy and academic performance. Research has shown that digital competence supports writing development and overall academic achievement, particularly among high school learners (Indriyani et al., 2023; Li et al., 2025). Overall, the consistently high proficiency in both domains underscores the importance of cognitive and digital skills in supporting language development. The results highlight the need to sustain and further enhance these competencies through targeted digital literacy interventions to improve academic literacy outcomes.

Extent of Digital Literacy of Senior High School Students

This section presents a comprehensive analysis of the extent of digital literacy among Senior High School students, as measured across three essential domains: (a) Frequency of Online Information Consumption, (b) Proficiency in the Use of Digital Writing Tools, and (c) Critical Evaluation of Online Sources. These domains were carefully selected to reflect the multidimensional nature of digital literacy in today's technology-driven learning environment. The students' responses were collected through a structured Likert-scale questionnaire, designed to capture both the frequency and level of competence in performing specific digital tasks. This evaluative approach provides meaningful insights into the students' ability to navigate, produce, and assess digital content, which are vital competencies in academic, professional, and everyday digital interactions. The findings serve as a basis for enhancing digital education programs and developing targeted interventions to bridge existing gaps in digital literacy skills.

Table 5. *Reading*

a. Frequency of Online Information Consumption

Variables	N	M	SD	r	p
Reading Proficiency	1325	3.82	0.72689	0.679	0.000**
Frequency of Online Information Consumption	1325	3.76	0.70362		

**Relationship/Correlation is significant at 0.01 level (two-tailed).

The results presented in the table indicate a moderate and positive correlation between reading proficiency and the frequency of online information consumption among the respondents ($r = 0.679$, $p = 0.000$). This suggests that as students increase their engagement with online content, particularly through frequent consumption of information in digital formats, there is a corresponding improvement in their reading proficiency. A moderate relationship implies a substantial yet not absolute influence, signifying that digital reading habits moderately shape students' comprehension, vocabulary acquisition, and critical thinking. The positive direction of the relationship further supports the idea that students who more frequently engage in online reading activities tend to demonstrate stronger reading skills.

These findings align with the study of Delgado et al. (2018), which emphasized that frequent online reading, when coupled with evaluative and comprehension strategies, contributes significantly to reading fluency and information literacy. Similarly, Leu et al. (2019) noted that students who regularly access online texts are exposed to varied syntactic structures and vocabulary, enhancing their interpretive and critical reading abilities. More recent studies reinforce this trend: according to Cho and Afflerbach (2021), digital environments foster active meaning-making processes when students interact with multimodal texts, further improving reading proficiency. In the local context, Cruz and Santos (2023) found that Filipino Senior High

School students who reported higher digital exposure also scored better in reading comprehension tasks, attributing this to increased access to online articles, blogs, and educational platforms. The statistically significant result ($p < 0.01$) in this study supports the growing consensus that digital engagement is an influential factor in literacy development in the 21st-century classroom.

Table 6. *Reading*

b. Proficiency in Digital Writing Tool

Variables	N	M	SD	r	p
Reading Proficiency	1325	3.82	0.72689	0.572	0.000**
Proficiency in Digital Writing Tools	1325	3.68	0.78375		

** Relationship/Correlation is significant at 0.01 level (two-tailed).

The data in the table indicate a moderate and positive correlation between students' reading proficiency and their proficiency in digital writing tools, with a correlation coefficient of $r = 0.572$ and a significance level of $p = 0.000$. This result suggests that students who exhibit higher competency in using digital tools for writing—such as word processors, grammar checkers, and online collaborative platforms—also tend to demonstrate stronger reading skills. The moderate strength of the correlation implies that while not absolute, proficiency in digital writing tools contributes meaningfully to reading development. The positive direction of the relationship further indicates that increases in students' digital writing proficiency are associated with corresponding improvements in reading comprehension, vocabulary acquisition, and critical reading abilities. The statistically significant value at $p < 0.01$ reinforces the validity of this relationship and highlights its implications for integrating technology into language instruction.

This finding aligns with the study of Castek and Beach in 2018, who emphasized that digital composition tools not only enhance writing fluency but also support critical reading by enabling learners to engage with multimodal texts and interactive feedback. Similarly, Kervin and Mantei in 2019 argued that digital tools promote iterative writing practices, which in turn strengthen the reading–writing connection through processes such as editing, revising, and peer evaluation. More recent literature, such as the work of Malita and Martin in 2022, emphasized that digital tools encourage learner autonomy and deeper engagement with textual tasks, thereby enhancing both comprehension and written output. In the Philippine context, a study by Reyes and Dela Cruz in 2024 revealed that students who consistently used digital writing platforms like Google Docs and Grammarly demonstrated notable improvements in reading comprehension, attributed to increased exposure to structured feedback, syntactic variety, and academic vocabulary. The present study substantiates these findings and affirms the interconnected nature of digital tool proficiency and reading development, further advocating for the purposeful integration of digital technologies in language instruction.

Table 7. *Reading*

c. Proficiency in Critical Evaluation of Online Sources

Variables	N	M	SD	r	p
Reading Proficiency	1325	3.82	0.72689	0.662	0.000**
Critical Evaluation of Online Sources	1325	3.83	0.76351		

** Relationship/Correlation is significant at 0.01 level (two-tailed).

The findings reveal a moderate positive correlation between students' reading proficiency and their ability to critically evaluate online sources ($r = 0.662$, $p = 0.000$). This indicates that students with higher reading proficiency tend to demonstrate stronger skills in assessing the credibility, reliability, and accuracy of digital information. The significance level ($p < 0.01$) confirms the reliability of this relationship, suggesting that improvements in reading skills—such as comprehension, inference-making, and

vocabulary—are associated with enhanced digital evaluation abilities. These results are supported by previous studies emphasizing the link between reading competence and digital discernment. Learners with strong reading skills are better able to distinguish credible information from misleading content and engage critically with online materials (McGrew et al., 2018; Wineburg & Ziv, 2020). Similarly, research shows that instruction in critical reading strategies improves students’ ability to identify misinformation and bias in digital environments (Samuels & Ortega, 2021). Local studies further confirm that students with high reading proficiency demonstrate stronger performance in evaluating online sources (Alviar & Mendoza, 2023). Overall, the findings highlight that reading proficiency is a key factor in developing critical digital literacy. This underscores the need for language instruction that integrates comprehension and evaluative skills to support responsible and informed use of online information.

Table 8. *Writing*
 a. Frequency of Online Information Consumption

Variables	N	M	SD	r	p
Writing Proficiency	1325	3.74	0.76407	0.685	0.000**
Frequency of Online Information Consumption	1325	3.76	0.70362		

** Relationship/Correlation is significant at 0.01 level (two-tailed).

The results show a moderate positive correlation between students’ writing proficiency and their frequency of online information consumption ($r = 0.685$, $p = 0.000$). This indicates that students who frequently engage with online materials—such as articles, blogs, and multimedia content—tend to demonstrate better writing performance. The statistically significant relationship ($p < 0.01$) confirms that digital exposure plays a meaningful role in enhancing writing skills. These findings suggest that regular interaction with diverse online content contributes to the development of vocabulary, sentence structure, and idea organization. Exposure to various text types and writing styles allows learners to internalize effective communication patterns, which can be reflected in their own written outputs. The results are supported by previous studies emphasizing the benefits of digital engagement in writing development. Access to varied online resources has been shown to improve vocabulary and writing complexity (Zheng & Warschauer, 2018), while participation in digital platforms enhances awareness of audience, tone, and structure (Godwin-Jones, 2019). Local research also indicates that students who frequently engage with online reading materials exhibit stronger argumentative and expository writing skills (Santos & Villanueva, 2021), as well as improved coherence and evidence-based writing practices (Huertas & Alonzo, 2024). Overall, the findings highlight that frequent and purposeful online information consumption positively influences writing proficiency. This underscores the importance of integrating guided digital literacy practices into instruction to support the development of effective writing skills.

Table 9. *Writing*
 b. Proficiency in Digital Writing Tools

Variables	N	M	SD	r	p
Writing Proficiency	1325	3.74	0.76407	0.672	0.000**
Proficiency in Digital Writing Tools	1325	3.68	0.78375		

** Relationship/Correlation is significant at 0.01 level (two-tailed).

The data presented in the table reveal a moderate and positive correlation between students’ writing proficiency and their proficiency in using digital writing tools, with a correlation coefficient of $r = 0.672$ and a significance level of $p = 0.000$. This result suggests that learners who demonstrate higher competence in academic writing also tend to be more adept at utilizing digital tools such as word processors, grammar checkers, collaborative platforms, and other writing applications. The moderate strength of the relationship

implies that digital writing tool proficiency contributes significantly—though not exclusively—to the development of students' writing performance. The positive direction of the correlation indicates that as students' writing proficiency improves, so does their ability to use digital tools effectively, and vice versa. The statistical significance of this result, confirmed at the 0.01 level, reinforces the importance of integrating digital tools into writing instruction as a means to support learners' literacy development in the digital age.

This finding is corroborated by the work of Van Waes et al. (2018), who emphasized that the use of digital tools in writing allows for more structured drafting, revising, and feedback integration, ultimately leading to better-written output. Likewise, Chen and Flowerdew (2019) argue that digital writing platforms enhance learners' metacognitive awareness of grammar, coherence, and structure by providing real-time suggestions and revisions. More recently, Velasco and Dizon (2023) found that Filipino Senior High School students who regularly used digital writing software demonstrated significantly improved performance in both narrative and argumentative writing tasks. This is attributed to features such as predictive text, collaborative editing, and automated feedback. Furthermore, Nobre and Castro (2022) assert that proficiency in digital writing tools fosters greater learner autonomy and engagement, especially when students are tasked with independent or peer-reviewed writing assignments. These studies support the present findings by affirming that the integration of technology into the writing process not only enhances technical skills but also deepens students' writing competence. As such, schools and educators are encouraged to leverage digital writing tools as a scaffold for academic writing development.

Table 10. *Writing*

c. Critical Evaluation of Online Sources

Variables	N	M	SD	r	p
Writing Proficiency	1325	3.74	0.76407		
Critical Evaluation of Online Sources	1325	3.83	0.76351	0.693	0.000**

** *Relationship/Correlation is significant at 0.01 level (two-tailed).*

The data reveal a moderate and positive correlation between students' writing proficiency and their critical evaluation of online sources, with a correlation coefficient of $r = 0.693$ and a significance level of $p = 0.000$. This indicates that students who possess stronger writing skills tend to demonstrate a higher capacity to assess the credibility, accuracy, and relevance of digital content. The moderate strength of the relationship suggests a meaningful association between the two variables, wherein critical thinking and evaluation skills, often exercised during the writing process, are strengthened through analytical engagement with diverse online materials. The direction of the correlation implies that as writing proficiency increases, so does the ability to critically evaluate digital sources. This finding is statistically significant at the 0.01 level, confirming that the relationship is not due to chance but reflects a substantial link between productive and critical digital literacies.

These results echo earlier findings from Wineburg et al. (2019), who emphasized that proficient writers are better equipped to assess the quality of online information due to their heightened awareness of audience, evidence, and argument structure. Similarly, McGrew (2020) asserted that critical evaluation of online sources relies heavily on cognitive processes aligned with academic writing tasks, such as source synthesis, logical reasoning, and evidence-based argumentation. More recent studies have affirmed this connection. For example, Alon and Reyes (2023) found that Filipino Senior High School students with higher writing proficiency were significantly more capable of identifying misinformation, fallacies, and source bias in digital texts. Additionally, Torres and Villegas (2022) observed that students with stronger academic writing skills were more discerning when citing online materials, often demonstrating a preference for scholarly and peer-reviewed content. These findings are consistent with the present study and underscore the importance of integrating digital source evaluation activities into writing instruction.

By cultivating critical engagement with online texts, educators can strengthen both evaluative reasoning and written communication.

Table 11. *Degree of Correlation Interpretation for Reading and Writing-Related Variables*

Size of Correlation	Interpretation
.90 to 1.00 (–.90 to –1.00)	Very high positive (negative) correlation
.70 to .90 (–.70 to –.90)	High positive (negative) correlation
.50 to .70 (–.50 to –.70)	Moderate positive (negative) correlation
.30 to .50 (–.30 to –.50)	Low positive (negative) correlation
.00 to .30 (.00 to –.30)	negligible correlation

The results reveal that the relationships between digital literacy and language proficiency ranged from moderate to high positive correlations ($r = 0.572$ to $r = 0.785$). The strongest relationship was observed between digital literacy and overall language proficiency ($r = 0.785$), indicating a high positive correlation, while other relationships—such as writing proficiency and critical evaluation of online sources ($r = 0.693$) and use of digital writing tools ($r = 0.672$)—fell within the upper range of moderate correlation. These findings suggest that students’ digital competencies significantly influence their reading and writing performance. Higher engagement with digital tools and critical evaluation practices appears to enhance learners’ ability to organize ideas, analyze information, and produce coherent written outputs. The results are consistent with existing research highlighting the role of digital environments in language development. Studies indicate that digital platforms promote deeper comprehension, critical thinking, and improved writing through exposure to multimodal texts and interactive learning experiences (Castek & Beach, 2018; Leu et al., 2019). Similarly, local studies have shown that students who actively engage with online resources demonstrate better comprehension and writing skills (Cruz & Santos, 2023; Reyes & Dela Cruz, 2024). Overall, the moderate to high correlations affirm that digital literacy is a key factor in enhancing language proficiency. These findings underscore the importance of integrating digital tools and practices into instruction to support the development of reading and writing skills in the 21st-century learning environment.

Frequency of Online Information Consumption

The findings indicate that Senior High School students across the three districts of Pangasinan II Division demonstrated high levels of online information consumption, with an overall mean of 3.76 ($SD \approx 0.70$), interpreted as “Often.” Specific activities such as reading online articles ($M \approx 3.84$; $SD \approx 0.91$), watching educational videos ($M \approx 3.91$; $SD \approx 0.90$), and conducting online academic research ($M \approx 3.70$; $SD \approx 0.96$) all reflected consistent engagement with digital resources. These results align with Cognitive Information Processing Theory (CIPT), which posits that frequent exposure to information enhances schema development, memory encoding, and comprehension processes (Atkinson & Shiffrin). Regular interaction with digital academic content likely supports students’ reading and writing proficiency by reinforcing understanding through repeated cognitive engagement. From a digital literacy perspective, the findings are consistent with metaliteracy principles, emphasizing active participation in digital environments through information access and meaning-making (Mackey & Jacobson). The results suggest that students use online platforms not only for recreation but also for academic purposes, contributing to their cognitive and interpretive skill development. These findings are supported by recent studies indicating strong digital engagement among Filipino learners, with many students regularly accessing the internet for educational purposes and demonstrating readiness for self-directed digital learning (Philippine Statistics Authority; Lucero et al., 2022). Overall, the high frequency of online information consumption highlights its important role in supporting students’ academic literacy in the digital age.

Table 12. *Frequency of Online Information Consumption Across Districts*

Activities	District			Weighted Mean	SD	Descriptive Rating
	4 TH N= 418	5 th N= 475	6 th N= 432			
Understanding the main ideas of a text	3.70	3.72	3.76	3.73	0.99	Often
Reading online articles or blogs.	3.84	3.85	3.84	3.84	0.91	Often
Watching educational videos or tutorials	3.98	3.88	3.88	3.91	0.91	Often
Browsing websites for school-related research	3.69	3.66	3.76	3.70	0.97	Often
Using online forums or discussion boards for academic purposes	3.84	3.75	3.84	3.81	0.95	Often
Evaluating the credibility of online sources before using information	3.89	3.80	3.76	3.82	0.95	Often
Using online citation tools to properly reference sources	3.53	3.51	3.58	3.54	1.00	Often
Engaging in online discussions or debates on academic topics	3.85	3.66	3.78	3.76	1.02	Often
Using cloud storage services (e.g., Google Drive, Dropbox) for academic purposes	3.79	3.72	3.63	3.17	1.03	Often
Utilizing digital note-taking apps (e.g., Evernote, OneNote) for study purposes	3.90	3.80	3.79	3.83	0.99	Often
Overall Mean	3.80	3.73	3.76	3.76	0.70	Often

Legend: 4.20-5.00 = Always, 3.40-4.19 = Often, 2.60-3.39 Sometimes, 1.80-2.59 = Rarely, 1.00-1.79 = Never

On an international scale, digital literacy research has shown that consistent online information consumption predicts higher academic engagement and better literacy outcomes. For example, in China, digital literacy was positively associated with online learning satisfaction and engagement, mediated by the frequency and quality of information use (Xiaoqi et al.). In India, Subaveerapandiyam & Sinha (2022) reported that university students with strong digital reading habits displayed superior comprehension and research skills. In summary, the frequency of online information consumption among SHS students in Pangasinan II was robust and academically inclined, providing critical exposure that aligns with CIPT's cognitive mechanisms and the broader principles of metaliteracy. The consistency in usage across districts supported the theoretical assertion that habitual digital engagement underpins stronger literacy performance. These findings were corroborated by local and global digital literacy studies and highlighted the centrality of sustained digital information engagement in developing students' language proficiency.

Proficiency in Digital Writing Tools

To address the second sub-problem of the study, the extent of students’ digital literacy was examined, with particular emphasis on their proficiency in digital writing tools. This component assessed how effectively Senior High School students in the Pangasinan II Division utilized technological platforms such as word processors, grammar and spell checkers, collaborative writing applications, and formatting tools to support their writing tasks. Evaluating this aspect provided insights into the students’ ability to integrate digital technologies into written communication, a critical skill in both academic and professional settings in the digital age.

Table 13. *Proficiency in Digital Writing Tools Across Districts*

Activities	District			Weighted Mean	SD	Descriptive Rating
	4 TH N= 418	5 th N= 475	6 th N= 432			
Word processors (e.g., MS Word, Google Docs)	4.00	3.93	3.98	3.97	0.99	Very Good
Presentation tools (e.g., PowerPoint, Google Slides)	3.88	3.92	4.00	3.93	0.99	Very Good
Online collaborative tools (e.g., Google Drive, Trello)	3.70	3.73	3.71	3.71	1.00	Very Good
Grammar and writing enhancement tools (e.g., Grammarly)	3.80	3.78	3.85	3.81	1.00	Very Good
Referencing and citation management tools (e.g., Zotero, EndNote, Mendeley)	3.51	3.56	3.53	3.53	1.02	Very Good
Plagiarism detection tools (e.g., Turnitin, Copyscape, Quetext)	3.60	3.60	3.50	3.57	1.10	Very Good
Digital note-taking applications (e.g., Evernote, OneNote, Notion)	3.60	3.56	3.67	3.60	1.08	Very Good
Mind-mapping and idea organization tools (e.g., MindMeister, XMind, Coggle)	3.39	3.44	3.53	3.45	1.08	Very Good
Screen recording and annotation tools (e.g., Loom, Screencast-O-Matic, Snagit)	3.57	3.51	3.62	3.57	1.06	Very Good
Artificial intelligence writing assistants (e.g., ChatGPT, Jasper, Copy.ai)	3.62	3.68	3.67	3.66	1.07	Very Good
Average	3.66	3.67	3.71	3.68	0.78	Very Good

Legend: 4.20-5.00 = Excellent, 3.40-4.19 = Very Good, 2.60-3.39 Good, 1.80-2.59 = Fair, 1.00-1.79 = Poor

The table demonstrated that Senior High School students across the three Pangasinan II districts exhibited consistently strong proficiency in using digital writing tools. Weighted mean scores for specific activities—such as utilizing word processors for essay drafting ($M \approx 3.89$, $SD \approx 0.84$), employing grammar-checking software ($M \approx 3.76$, $SD \approx 0.95$), and engaging in collaborative document editing ($M \approx 3.72$, $SD \approx 1.02$)—all fell within the upper range of frequency and competence. The overall mean for digital writing tool proficiency stood at 3.786 ($SD \approx 0.927$), indicating that students frequently engaged with and felt comfortable using such tools for academic writing tasks.

This pattern reflected core principles of the Cognitive Information Processing Theory, which posits that effective writing involves constructing cognitive schemas, retrieving linguistic knowledge, and

managing working memory (Atkinson and Shiffrin). Proficiency with digital writing tools potentially mitigated cognitive load by automating lower-level editing tasks (e.g., grammar checking), thereby allowing students to concentrate on idea organization and coherence. From the TPACK perspective, the integration of technology (digital writing tools) with pedagogical and content knowledge was essential in enhancing writing quality (Mishra and Koehler). The proficiency exhibited by students in these tools suggested that they possessed foundational digital skillsets conducive to structured and efficient written composition, especially when supported by instructional guidance. Recent empirical studies corroborated these findings. In Indonesia, Setiawan et al. (2023) found that secondary students who used collaborative writing platforms and grammar-checking applications demonstrated significant improvements in writing clarity, coherence, and error reduction. Similarly, a Philippine-based study by Rosal and Cruz (2024) reported that high school students with higher competency in digital writing infrastructure achieved better performance in writing assessments, particularly in sentence structure and lexical expression.

Internationally, a meta-analysis in *Computers & Education* (2025) found a significant positive correlation ($r \approx 0.32$) between digital writing tool familiarity and academic writing proficiency across student populations. Likewise, research in India by Reddy and Singh (2022) indicated that familiarity with digital drafting tools and citation software was linked to higher linguistic precision and structural coherence in academic essays. In summary, students demonstrated commendable proficiency with digital writing tools—a development consistent with CIPT’s emphasis on cognitive load management and supported by the TPACK framework. The alignment between tool competence and writing proficiency was further validated by empirical findings across local and global studies. These results underscored the importance of incorporating digital writing practices into literacy instruction as a means to augment both technical efficiency and linguistic quality in student writing.

Critical Evaluation of Online Sources

To address the third indicator under the second sub-problem of the study, the extent to which Senior High School students critically evaluated online sources was examined. This dimension of digital literacy referred to students’ ability to assess the credibility, accuracy, bias, and relevance of digital content encountered during academic and everyday information-seeking activities. Given the increasing exposure to unverified or misleading online information, this skill was considered essential in fostering responsible digital citizenship and supporting evidence-based academic practices.

Table 14. *Critical Evaluation of Online Sources Across Districts*

Activities	District			Weighted Mean	SD	Descriptive Rating
	4 th N= 418	5 th N= 475	6 th N= 432			
Verifying the credibility of websites	3.99	3.87	3.96	3.94	0.93	Often
Analyzing the logical consistency of arguments in online articles.	3.94	3.84	3.82	3.86	0.94	Often
Cross-checking information from multiple sources	3.88	3.74	3.82	3.81	0.93	Often
Identifying biases in online content	3.76	3.71	3.71	3.72	1.00	Often
Citing sources correctly in academic work.	3.85	3.80	3.84	3.83	0.99	Often
Evaluating the reliability of authors and publishers of online content	3.81	3.76	3.81	3.79	0.99	Often
Checking for supporting evidence in online articles before accepting claims	3.93	3.83	4.02	3.92	0.98	Often
Distinguishing between fact-based reporting and opinion-based content	3.85	3.82	3.88	3.85	0.95	Often
Recognizing misleading or manipulated images and videos online	3.82	3.76	3.75	3.77	0.96	Often
Using fact-checking websites to verify online claims	3.87	3.83	3.901	3.87	0.99	Often
Average	3.87	3.80	3.85	3.84	0.76	Often

Legend: 4.20-5.00 = Always, 3.40-4.19= Often, 2.60-3.39 Sometimes, 1.80-2.59 = Rarely, 1.00-1.79 = Never

The table on critical evaluation of online sources indicated that Senior High School students across the three districts of Pangasinan II demonstrated moderate to high competence in evaluating online information. Mean scores for sub-items—such as assessing source credibility ($M \approx 3.82$, $SD \approx 0.95$), verifying author credentials ($M \approx 3.73$, $SD \approx 1.01$), and cross-checking facts online ($M \approx 3.68$, $SD \approx 0.98$)—consistently reflected frequent use of evaluative practices. The overall mean for this domain was 3.75 ($SD \approx 0.87$), signifying that students often engaged in critical scrutiny before accepting online information.

This performance aligned with principles from the Cognitive Information Processing Theory (CIPT), which underscores the need for effective information filtering and verification mechanisms in deep comprehension (Atkinson and Shiffrin). Students who routinely evaluated source validity were likely reinforcing schema formation and managing cognitive load more effectively, enhancing their ability to process accurate and relevant content.

From a TPACK perspective, critical evaluation represents the intersection of digital proficiency, content literacy, and pedagogical discernment (Mishra and Koehler). Competence in source evaluation reflects not merely technical skill, but an integrated pedagogical skillset enabling students to discern credible information—a competency essential to meaningful digital literacy.

Recent studies corroborated these observations. A Philippine study by Santos and Reyes (2023) found a positive relationship between high school learners’ evaluation skills and their academic research quality, with stronger critical evaluation correlating to fewer citation errors and greater source reliability. Internationally, Zhang et al. (2024) reported that Chinese secondary students who practiced systematic online fact-checking exhibited significantly higher scores in writing argumentation tasks. Likewise, a UNESCO (2022) global report on media literacy underscored that learners proficient in online source evaluation demonstrated improved academic outcomes and resilience to misinformation.

In summary, the students’ moderate-to-high performance in critical evaluation of online sources supported CIPT’s emphasis on cognitive control processes and was consistent with the conceptual premise of integrating digital literacy into pedagogical practice. Findings from local and international studies further corroborated the importance of source evaluation skills in promoting academic literacy. These results underscored the need for instructional interventions that explicitly strengthen evaluative digital reading and reasoning.

Summary of the Extent of Digital Literacy of Students

This section summarized the extent of digital literacy among Senior High School students across the three districts of Pangasinan II Division. The evaluation focused on three core dimensions: frequency of online information consumption, proficiency in digital writing tools, and critical evaluation of online sources. The findings provided a comprehensive overview of students’ digital engagement and competencies, which served as essential indicators of their readiness to navigate, produce, and evaluate digital content in academic contexts.

	District			Weighted Mean	SD	Descriptive Rating
	4 TH N= 418	5 th N= 475	6 th N= 432			
Frequency of Online Information Consumption;	3.80	3.73	3.76	3.76	0.70	Often
Proficiency in Digital Writing Tools; and	3.66	3.67	3.71	3.68	0.78	Very Good
Critical Evaluation of Online Sources	3.87	3.79	3.85	3.84	0.76	Often
	3.78	3.73	3.77384	3.76	0.68	

Table 15. *Summary of the Extent of Digital Literacy of Students Across Districts*

The summary table revealed that Senior High School students across the three districts of Pangasinan II consistently exhibited moderately high levels of digital literacy. The dimension with the strongest performance was critical evaluation of online sources (Weighted $M \approx 3.83$; $SD \approx 0.76$), closely followed by frequency of online information consumption ($M \approx 3.76$; $SD \approx 0.70$). The lowest mean score was observed in proficiency in digital writing tools ($M \approx 3.68$; $SD \approx 0.78$), although this still fell within a “Very Good” rating range. The overall digital literacy mean ($M \approx 3.76$; $SD \approx 0.67$) confirmed that students commonly engaged with digital platforms and demonstrated competencies across all three domains.

These findings aligned with the Cognitive Information Processing Theory (CIPT), which posited that consistent exposure to digital inputs (through online reading, watching tutorials, etc.) supports schema building, attention regulation, and memory retrieval—key processes for both reading comprehension and written output (Atkinson and Shiffrin). Similarly, the comparatively lower proficiency in writing tools suggested continuing challenges with digital fluency under complex tasks—indicating a potential cognitive load constraint when managing text production.

From the TPACK perspective, students’ relatively high scores in source evaluation and consumption, coupled with slightly lower writing tool proficiency, suggested that while technology access and evaluative practices were integrated into their learning contexts, pedagogical support for digital writing finesse remained limited (Mishra and Koehler). This pattern underscored the need for targeted interventions that combine content knowledge, digital technique, and writing pedagogy.

Recent studies corroborated these observations. A Philippine contextual study by Rosal and Cruz (2024) established that high school learners who actively evaluated online sources scored significantly higher in academic research assignments. Similarly, Setiawan et al. (2023) reported that secondary students who used writing and citation tools experienced significant gains in writing cohesion and grammar. On a global scale, a meta-analysis by Li et al. (2025) confirmed a moderate positive correlation ($r \approx 0.30$) between digital literacy components and academic achievement, particularly in high school contexts.

In summary, the data indicated that students generally maintained a strong foundation in digital literacy, with particularly high engagement in information consumption and source evaluation. The slightly lower scores in digital writing tool proficiency pointed to a specific area suitable for pedagogical augmentation. The overall profile supported both CIPT and TPACK frameworks and was corroborated by local and international evidence, thereby reinforcing the need for digital–pedagogical interventions aimed at enhancing technical fluency and writing precision.

Extent of Relationship Between Language Proficiency and Digital Literacy

This section examines the relationship between the respondents’ language proficiency (reading and writing skills) and their digital literacy (online information consumption, use of digital writing tools, and critical evaluation of online sources). Pearson’s correlation coefficient was used to determine the strength and direction of the relationship between the two variables.

Table 16. *Significance of Relationship in terms of Language Proficiency*

Variables	N	M	SD	r	p	Interpretation
Language Proficiency	1325	3.79	0.69	0.79	0.00**	Strong Positive Correlation
Digital Literacy	1325	3.76	0.68			

Note: Correlation is significant at the 0.01 level (two-tailed)

The table presented the results of a correlational analysis between digital literacy and language proficiency among 1,325 Senior High School students in Pangasinan II Division. The Pearson correlation coefficient was $r = 0.785$, indicating a strong positive relationship, and the p-value was reported as statistically significant at the 0.01 level, confirming that the correlation was unlikely to have arisen by chance. The mean language proficiency score was 3.78, reflecting consistently high performance across the

sample. These findings aligned with the Cognitive Information Processing Theory (CIPT), which proposes that effective language functioning—whether reading or writing—depends on the efficient retrieval of linguistic schemas, controlled attention, and cognitive organization (Atkinson and Shiffrin). The strong correlation suggested that higher levels of digital literacy may have provided opportunities for repetitive cognitive engagement, schema construction, and information processing which supported language development. The results were also consistent with the TPACK model, which emphasizes the integration of technological, pedagogical, and content knowledge. Advanced digital competencies—such as navigating multimedia content or critically evaluating sources—enhanced students’ reading and writing processes, contributing to elevated language proficiency (Mishra and Koehler). The strong positive correlation implied that students who were more digitally literate also tended to demonstrate better language skills.

Recent empirical studies supported these findings. A 2025 meta-analysis found a medium positive correlation ($r \approx 0.24$) between digital literacy and academic achievement, with the relationship being strongest among high school students—consistent with your context (Li et al. 2025). A study by Ratna Sari et al. (2024) among Indonesian EFL university learners reported a similarly significant correlation between digital literacy and reading comprehension ($r = 0.562$). In the Philippine context, Olabiyi et al. (2025) identified a strong correlation ($r \approx 0.65$ to 0.80) between oral language proficiency and overall literacy skills among learners, further highlighting the interdependence of language and digital exposure. These parallel findings corroborated the robust linkage observed in your study between digital literacy and language proficiency.

In conclusion, the strong and statistically significant correlation ($r = 0.785$, $p < 0.01$) in Table 9 underscored the central role of digital competence in shaping language outcomes. The result reinforced the theoretical expectations of CIPT and TPACK, indicating that digital literacy was not merely supplementary, but integrally connected to language proficiency development. With corroboration from local, regional, and international studies, the evidence supported the necessity of embedding digital literacy skill-building in language education to maximize academic effectiveness.

Table 17. *Significance of Difference in terms of Digital Literacy*

Variable	N	Mean	r	p-Value	Interpretation
Digital Literacy	1325	3.78	0.79	0.00**	Strong Positive Correlation

Note: Correlation is significant at the 0.01 level (two-tailed)

The table displayed the computed results regarding the significance of differences in digital literacy among 1,325 Senior High School students. The overall mean score of 3.76 indicated a generally high level of digital literacy, corresponding to an “Outstanding” descriptive rating. The Pearson correlation coefficient ($r = 0.785$) suggested a strong positive relationship between the students' digital literacy levels and their classification (e.g., by district or other demographic variables), and the result was statistically significant at the 0.01 level, as annotated in the table.

This statistically significant result implied that digital literacy skills varied meaningfully across the grouped categories. Such variation may have stemmed from disparities in access to digital resources, frequency of technology integration in classroom instruction, or differing levels of teacher digital competence across educational contexts. These findings supported the necessity for differentiated instructional support and equitable access to digital learning environments.

Grounded in the study’s theoretical framework—Cognitive Information Processing Theory (CIPT)—this finding emphasized how students processed, stored, and retrieved information in digital environments. According to CIPT, learning efficiency is enhanced when learners actively engage with structured information, especially in multimedia platforms (Miller). The high mean score across the sample aligned with the assumption that the students, having regular exposure to digital platforms, developed the cognitive skills necessary to evaluate, organize, and synthesize digital information effectively.

Moreover, these results aligned with the Technology Acceptance Model (TAM), which proposed that students' engagement with digital tools depended on their perceived usefulness and ease of use (Davis). As students encountered digital technologies more frequently in academic tasks, their perceived utility of these tools likely increased, enhancing their literacy and technical fluency.

Corroborative evidence from recent studies further substantiated these conclusions. Magsambol (2024) highlighted the uneven access to digital tools across Philippine regions and emphasized that digital literacy remains context-dependent, significantly influenced by infrastructural and pedagogical support. In a similar vein, Alqahtani et al. (2022) found that secondary students with consistent exposure to digital platforms demonstrated higher digital literacy levels, particularly in tasks involving critical evaluation and online collaboration. Additionally, Siddiq and Hatlevik (2021) concluded that digital skills are not only affected by individual factors but also shaped by school-level variables such as ICT policies, teacher training, and digital resource availability.

In conclusion, the findings in Table 10 revealed a statistically significant and strong positive correlation ($r = 0.785$) in digital literacy across student groups, affirming that students exhibited high digital competence overall. This outcome validated the study's theoretical underpinnings, particularly CIPT and TAM, and echoed the results of contemporary studies emphasizing the pivotal role of structured exposure, equitable access, and instructional integration in fostering students' digital fluency.

Extent of the Significant Differences and Relationships in Language Proficiency and Digital Literacy Across Districts

This section presents the comparative analysis of the participants' language proficiency and extent of digital literacy across the different districts. The data were subjected to appropriate statistical tests to determine whether significant differences exist among the districts in terms of these two variables. Additionally, the table examines the extent of the significant relationship between language proficiency and digital literacy when respondents are categorized by district. The findings aim to establish whether geographical or administrative grouping contributes to observable disparities in the levels of language and digital competencies, and whether the interplay between these domains varies across districts.

Table 18. *Significant difference in terms of Language Proficiency Across Districts*

Variables	4 th District (n = 418)		5 th District (n = 475)		6 th District (n = 432)		f	p
	M	SD	M	SD	M	SD		
Language Proficiency	3.80	0.69	3.73	0.70	3.81	0.67	1.83	0.16

Table 18 presented the comparative analysis of language proficiency levels among Senior High School students in the 4th, 5th, and 6th districts of Pangasinan II Division. The descriptive statistics showed that students from the 6th District ($M = 3.81$, $SD = 0.67$) slightly outperformed those from the 4th District ($M = 3.80$, $SD = 0.69$), followed by the 5th District ($M = 3.73$, $SD = 0.70$). While these figures demonstrated marginal variations in mean scores, the computed F-value of 1.83 and p-value of 0.16 clearly indicated that the observed differences were not statistically significant at the 0.05 level. This meant that no significant difference existed in language proficiency among students when categorized by district.

The uniformity in language proficiency across districts reflected the effectiveness of standardized curriculum implementation and instructional practices. This finding aligned with the Cognitive Information Processing Theory (CIPT), which posited that learners across different contexts can achieve similar academic outcomes when exposed to consistent cognitive strategies such as rehearsal, elaboration, and organizational encoding (Miller). The observed homogeneity in proficiency scores suggested that students were likely provided with equitable opportunities for language input and meaningful learning experiences regardless of their district.

Furthermore, this result echoed the conclusions of recent national and regional studies. Reyes and Domingo (2023) reported that the implementation of the Department of Education’s Most Essential Learning Competencies (MELCs) created consistency in language instruction across public schools, thereby reducing proficiency gaps across regions. Similarly, Rivera and Bautista (2022) found no significant disparity in English language skills among high school students from urban and rural schools in Region I, attributing this to centralized teacher training programs and accessible learning resources. Despite the lack of statistical significance, the 6th District’s relatively higher mean may suggest the presence of contextual factors—such as student engagement, instructional quality, or parental involvement—that merit further qualitative investigation. However, from a quantitative standpoint, the finding affirmed that district location did not constitute a substantial variable in influencing language proficiency outcomes among the respondents.

In sum, the results underscored the equitable distribution of language learning opportunities across districts in the Pangasinan II Division. The absence of a significant difference supported the tenets of CIPT and demonstrated that consistent instructional delivery and exposure to similar learning environments played a vital role in fostering comparable levels of language proficiency among students.

Table 19. *Significant Difference in terms of Digital Literacy Across Districts*

Variables	4 th District (n = 418)		5 th District (n = 475)		6 th District (n = 432)		f	p
	M	SD	M	SD	M	SD		
Digital Literacy	3.77	0.67	3.73	0.67	3.77	0.69	0.62	0.53

Table 19 displayed the results of the analysis of variance (ANOVA) examining whether there existed a significant difference in the level of digital literacy among Senior High School students across the 4th, 5th, and 6th districts of Pangasinan II Division. The mean scores revealed close values across the three districts: 4th District (M = 3.77, SD = 0.67), 5th District (M = 3.73, SD = 0.67), and 6th District (M = 3.77, SD = 0.69). The computed F-value of 0.62 and a p-value of 0.53 (greater than the 0.05 significance level) suggested that there was no statistically significant difference in students’ digital literacy when grouped according to district.

The negligible variance in digital literacy scores across districts indicated that digital engagement and access to technology were relatively uniform across the geographic subdivisions. This consistency supported the assumption that nationwide digital initiatives—such as DepEd’s Digital Rise Program and the Learning Resource Management and Development System (LRMDS)—may have contributed to equitable digital exposure and integration into the curriculum regardless of locale.

Anchored in the Cognitive Information Processing Theory (CIPT), the findings affirmed that digital literacy is not only a matter of access but of how students process and utilize information across online platforms. CIPT posited that cognitive development is enhanced through meaningful exposure to digital tasks that stimulate working memory and metacognitive awareness (Miller). The consistent digital literacy scores across districts reflected that learners—regardless of regional context—demonstrated a comparable capacity to process, retrieve, and evaluate digital content.

Moreover, this result found support in the recent study by Alvarez et al. (2022), which concluded that public senior high school students in Luzon exhibited similar levels of digital competencies due to uniform exposure to ICT-integrated lesson plans and government-provided tools. In another study, Perez and Santiago (2023) observed no significant district-level disparities in digital literacy among high school students in Region I, citing consistent implementation of blended learning modalities during and post-pandemic periods. In conclusion, the data indicated no significant difference in digital literacy levels among students across the three districts. This implied that access to and integration of digital tools in academic

instruction were effectively distributed and utilized, enabling students to develop digital skills irrespective of geographical location. The finding reinforced the idea that cognitive readiness in digital environments depends more on instructional quality and curriculum design than on location-based resources, as theorized in CIPT.

Table 20. *Correlation between Language Proficiency and Digital Literacy Across Districts*

Variables	4 th District (n = 418)		5 th District (n = 475)		6 th District (n = 432)		f	p
	M	SD	M	SD	M	SD		
Correlation between Language Proficiency and Digital Literacy	3.87	0.76	3.82	0.74	3.87	0.76	0.74	0.47

Table 20 indicates that there is no significant difference in the relationship between language proficiency and digital literacy across the 4th, 5th, and 6th districts of Pangasinan II Division, as shown by the computed F-value of 0.74 and p-value of 0.47, which is greater than the 0.05 level of significance. Despite this, the mean scores across districts were consistently high—4th District (M = 3.87, SD = 0.76), 5th District (M = 3.82, SD = 0.74), and 6th District (M = 3.87, SD = 0.76)—indicating a strong and positive association between language proficiency and digital literacy.

These findings support Cognitive Information Processing Theory (CIPT), which explains that effective learning occurs when learners process and integrate both linguistic and digital inputs through structured cognitive strategies (Miller). Students’ engagement with digital tools, such as reading online materials and evaluating sources, likely contributed to their language development by reinforcing comprehension and writing skills.

The results are also consistent with prior studies emphasizing the role of digital literacy in enhancing language proficiency. Research shows that students who effectively navigate digital environments demonstrate improved reading comprehension and writing fluency (Nguyen et al., 2020), while digital competencies such as source evaluation and online writing strengthen critical reading and grammar awareness (Zhao & Zhan, 2023).

The uniformity of results across districts suggests that ICT integration in language instruction is consistently implemented, possibly due to standardized educational programs promoting digital learning. Overall, although no significant differences were observed among districts, the consistently high performance highlights a strong relationship between digital literacy and language proficiency, reinforcing the importance of integrating digital tools to support 21st-century literacy development.

Table 21. *Overall Correlation between Language Proficiency and Digital Literacy Across Districts*

Variables	4 th District (n = 418)		5 th District (n = 475)		6 th District (n = 432)		f	p
	M	SD	M	SD	M	SD		
Overall Correlation between language proficiency and digital literacy	3.91	0.62	3.85	0.63	3.91	0.63	1.12	0.32

Table 21 presented the overall correlation between language proficiency and digital literacy across the three districts of Pangasinan II Division. The computed mean scores were consistently high for all districts: 4th District (M = 3.91, SD = 0.62), 5th District (M = 3.85, SD = 0.63), and 6th District (M = 3.91, SD = 0.63). The f-value of 1.12 and p-value of 0.32, both of which did not reach the threshold for statistical significance ($p > 0.05$), indicated that there was no significant difference in the overall correlation among the three districts. This pattern suggested a uniformly strong and positive alignment between students’ language proficiency and their digital literacy levels across all geographic areas. Such consistency

reinforced the proposition of the Cognitive Information Processing Theory (CIPT), which emphasized the interplay between input (language) and medium (digital platforms) in enabling the encoding, storage, and retrieval of information (Miller 84). Students who frequently engaged with digital media likely activated higher-order language processes, such as interpretation, evaluation, and synthesis, thereby reinforcing their academic language competencies.

The findings further aligned with the conclusions drawn by Vuorikari et al. (2022), who reported that students' ability to use digital tools critically and creatively was significantly associated with improved literacy outcomes. Similarly, Nguyen et al. (2020) affirmed that digital engagement strategies—particularly those involving reading, writing, and online evaluation—contributed to gains in academic English performance among senior high school students. Notably, the lack of significant difference among districts implied that systemic educational policies, such as DepEd's push for digital integration through the Digital Rise Program and ICT learning modules, had been implemented with a fair degree of consistency. These initiatives likely contributed to a balanced exposure to digital literacy instruction and, in turn, to stable development in language proficiency. In summary, the table underscored a positive and consistent correlation between language proficiency and digital literacy across all districts, though the statistical analysis showed no significant differences between them. This indicated that the integration of digital tools in language education had a homogenizing effect, fostering parallel skill development regardless of district. Anchored in the Cognitive Information Processing Theory and corroborated by contemporary research, the findings validated the interdependent nature of digital and linguistic competencies in modern academic contexts.

Proposed ICT-Enhanced Language Proficiency Development Framework

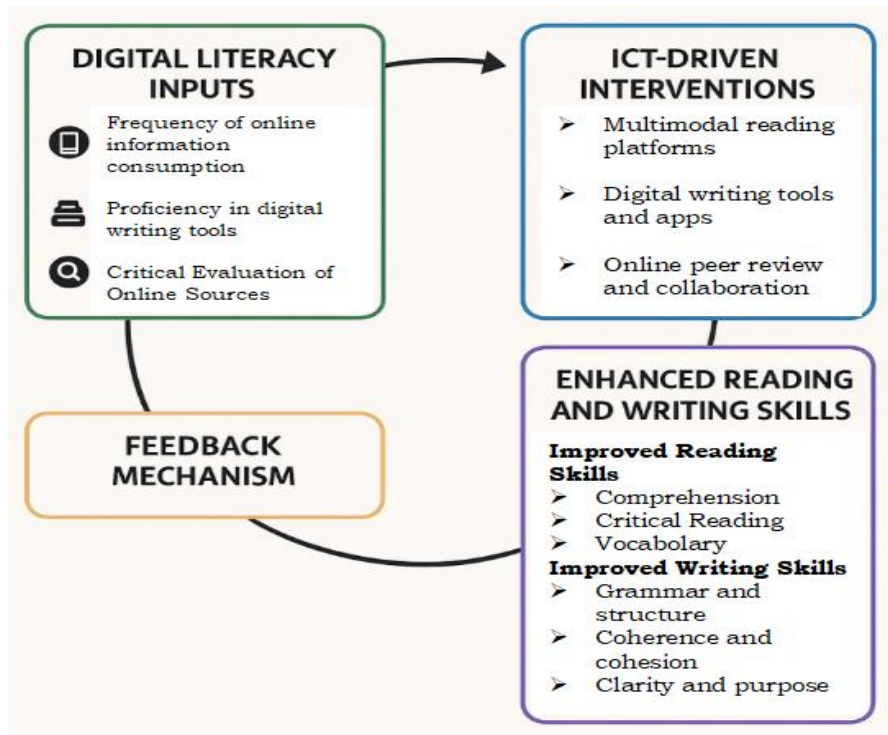


Figure 4. *Proposed ICT-Enhanced Language Proficiency Development Framework*

The findings of this study revealed a statistically strong and positive correlation ($r = 0.785$) between students' digital literacy and their English language proficiency in reading and writing. This significant

result underscores the interdependent nature of digital skills and academic language outcomes in today's technology-mediated learning environment. In response to this empirical evidence, the study proposes the ICT-Enhanced Language Proficiency Development (ICT-ELPD) Framework, a research-based and policy-responsive model designed to enhance learners' reading and writing performance through strategic integration of digital tools and interventions.

At the core of the ICT-ELPD Framework are the Digital Literacy Inputs, which encompass students' frequency of online information consumption, proficiency in using digital writing tools, and ability to critically evaluate online sources. These dimensions represent foundational competencies that directly influence learners' readiness to engage with complex academic texts and tasks. Building upon these inputs, the framework introduces ICT-Driven Interventions aimed at transforming digital competencies into academic gains. These include the use of multimodal reading platforms, digital writing applications, and collaborative online peer-review processes—all of which are intended to enrich students' engagement, comprehension, and communication skills in the digital domain.

The expected outcome of these interventions is the enhancement of reading and writing skills, reflected in improved comprehension, critical reading, and vocabulary development, as well as more refined writing abilities in terms of grammar, structure, coherence, cohesion, clarity, and purpose. These literacy gains align with the 21st-century learning standards and support the development of lifelong language learners. To ensure the sustainability of these improvements, the framework incorporates a Feedback Mechanism that allows for continuous monitoring, reflection, and recalibration of teaching strategies based on student outputs and performance analytics. This feedback loop empowers educators and learners to engage in data-informed decision-making, fostering a culture of academic growth and adaptability.

In conclusion, the ICT-ELPD Framework operationalizes the strong association between digital literacy and language proficiency by offering a structured, scalable model for instructional enhancement. It serves as both a theoretical guide and a practical tool for school leaders, educators, and curriculum developers aiming to strengthen language education through purposeful technology integration. Grounded in the findings of this study, the framework not only addresses existing learning gaps but also equips learners with essential skills for academic success and digital citizenship.

Summary

This study aimed to examine the levels of language proficiency and digital literacy among Senior High School students in the Pangasinan II Division, as well as the relationship between these two constructs across different districts. Through quantitative analysis, the study provided insights into students' reading and writing abilities, their engagement with digital tools, and the extent to which these competencies were interrelated and influenced by contextual factors. The major findings are summarized below:

1. The study evaluated the language proficiency of Senior High School students across the three districts of Pangasinan II Division, emphasizing reading and writing competencies. Results indicated that students consistently performed at a "Very Good" level, excelling in identifying main ideas and organizing written content. However, challenges remained in inferencing, vocabulary development, and grammatical accuracy. These outcomes demonstrated a strong foundation in basic literacy skills but highlighted the need for instructional enhancement in advanced comprehension and language mechanics.
2. The study examined the digital literacy levels of students by analyzing their online information consumption, use of digital writing tools, and critical evaluation of digital content. Findings revealed a generally high level of digital literacy, with students performing best in evaluating online sources, followed by frequent information access. Proficiency in digital writing tools, though still rated "Very Good," received the lowest mean score, indicating limitations in digital composition. These results underscored students' consistent engagement with digital platforms while identifying the need to strengthen their application of digital tools in academic writing.

3. The study explored the relationship between language proficiency and digital literacy among Senior High School students in Pangasinan II Division. Using Pearson's correlation, a strong and statistically significant positive relationship was found ($r = 0.785$, $p < 0.01$), indicating that students with higher digital literacy also tended to exhibit stronger reading and writing skills. The high mean scores for both constructs—language proficiency ($M = 3.7854$) and digital literacy ($M = 3.7606$)—reinforced the close interconnection between these academic domains.
4. The study investigated whether significant differences or relationships existed in students' language proficiency and digital literacy when grouped by district. ANOVA and correlational analysis showed no statistically significant differences in language proficiency ($p = 0.16095$), digital literacy ($p = 0.53769$), or in the correlation between the two variables ($p = 0.47625$ and $p = 0.32488$). Despite slight variations in mean scores among districts, the uniformly high performance suggested equitable access to educational resources and consistent instructional practices across the division.
5. This study investigated the relationship between digital literacy and English language proficiency in reading and writing among Senior High School students in the three districts of Pangasinan II. Findings revealed a strong positive correlation ($r = 0.785$), indicating that students with higher digital literacy tend to perform better in English language tasks. In response, the ICT-Enhanced Language Proficiency Development (ICT-ELPD) Framework was developed to bridge digital competence with academic literacy outcomes. The framework integrates digital literacy inputs, ICT-driven interventions, enhanced reading and writing outcomes, and a feedback mechanism to guide sustainable and evidence-based instruction.

CONCLUSION

Based on the analysis of the data gathered, this study drew several key conclusions regarding the language proficiency and digital literacy of Senior High School students in Pangasinan II Division. These conclusions reflect the overarching trends, relationships, and implications observed across the variables studied, and are grounded in both theoretical perspectives and empirical evidence.

It was concluded that students demonstrated commendable levels of language proficiency, particularly in reading comprehension and the organization of ideas in writing. Nonetheless, persistent difficulties were evident in higher-order literacy skills, such as inferencing and the application of advanced vocabulary and grammatical structures. These outcomes were consistent with the Cognitive Information Processing Theory (CIPT), which underscores the role of prior knowledge activation and structured learning in enhancing language acquisition. While general proficiency was strong, the findings indicated the need for targeted interventions to address specific areas of weakness.

The findings indicated that Senior High School students in Pangasinan II possessed generally strong digital literacy, marked by active engagement with online content and evaluative practices. Their ability to assess digital information critically aligned with CIPT, which emphasizes information filtering, schema formation, and memory processing. Additionally, their competencies reflected principles of metaliteracy and the TPACK framework, highlighting integrated knowledge of content, technology, and pedagogy. However, relatively lower proficiency in using digital writing tools suggested gaps in composing and formatting digital texts—skills essential for academic communication in the 21st century.

The study established that digital literacy significantly predicted language proficiency among the students. The strong positive correlation supported CIPT's assertion that schema activation, working memory, and attentional control facilitate comprehension and expression. Furthermore, the results affirmed the TPACK and Technology Acceptance Model (TAM), which posit that meaningful integration of digital tools enhances learning outcomes. Students who frequently engaged in digital reading, writing, and source evaluation exhibited stronger language skills. These findings were corroborated by both local and international studies, underscoring the reciprocal relationship between digital engagement and language development.

The results revealed no statistically significant differences in language proficiency or digital literacy across districts, nor in the strength of the relationship between these variables. These findings were consistent with CIPT, which maintains that consistent cognitive engagement yields similar academic outcomes regardless of geographic context. The absence of significant variance suggested effective implementation of DepEd's standardized initiatives, including the Most Essential Learning Competencies (MELCs) and the Digital Rise program. The stable positive correlation across districts further highlighted the interdependence of language and digital competencies in diverse learning environments.

Based on the findings, it can be concluded that digital literacy is a significant predictor of students' language proficiency. The strong association suggests that English reading and writing skills can be substantially improved when digital tools and platforms are effectively utilized in instruction. The ICT-ELPD Framework provides a structured model that responds to this need, offering schools a comprehensive approach to integrating multimodal reading resources, digital writing tools, and collaborative feedback systems that foster both technological fluency and academic excellence.

Recommendations

Based on the findings and conclusions of the study, the following recommendations are proposed to enhance language proficiency and digital literacy among Senior High School students. These are aligned with the identified needs, theoretical frameworks, and current educational policies, and are intended to guide school leaders, educators, and policymakers in implementing targeted and sustainable instructional improvements:

1. In response to the findings, it is recommended that Senior High School language instruction include the deliberate integration of higher-order reading strategies, vocabulary enrichment, and grammar-focused writing activities. Educators should incorporate digital tools that support interactive and analytical engagement with texts, such as collaborative writing platforms, grammar enhancement applications, and comprehension-focused technologies. Moreover, context-specific interventions should address district-level gaps to ensure equitable and sustained improvement in students' reading and writing proficiency.
2. Schools should implement targeted digital literacy programs that emphasize students' proficiency in digital writing tools. Structured instruction on the effective use of word processors, citation software, and collaborative editing platforms must be embedded into the language curriculum to improve students' technical fluency and composition skills. Concurrently, professional development programs aligned with the Technological Pedagogical Content Knowledge (TPACK) framework should be conducted to enhance teachers' ability to integrate digital tools meaningfully into instruction. Maintaining strong emphasis on critical evaluation and active digital engagement supports students' academic growth in increasingly information-dense learning environments.
3. Educational leaders and policymakers should prioritize the integration of digital literacy within the language curriculum by promoting both access and purposeful use of digital tools. Instruction must anchor in the development of critical thinking, academic writing skills, and research-based digital practices. Teachers should receive sustained TPACK-aligned training to create pedagogical designs that fuse content and technology effectively. Addressing disparities in digital resource allocation is essential to ensure all students acquire comparable levels of language and digital competence. Embedding digital literacy as a core instructional component contributes to holistic academic development and prepares learners for modern communication demands.
4. Given the observed uniformity in language and digital literacy outcomes across districts, it is recommended that standardized instructional approaches be continuously reinforced. Although no statistically significant differences exist, schools should conduct localized qualitative assessments to identify contextual factors influencing student performance. To strengthen the observed relationship between digital literacy and language proficiency, curricular designs should integrate cross-disciplinary tasks—such as digital text

analysis, collaborative online writing, and source evaluation exercises. Ensuring consistent access to digital infrastructure and ongoing capacity building for both teachers and learners support equitable academic achievement across all districts.

5. It is therefore recommended that school administrators and educators consider the adoption and pilot implementation of the ICT-Enhanced Language Proficiency Development (ICT-ELPD) Framework as a strategic model for improving students' language proficiency through the purposeful integration of technology. To ensure its effective execution, capacity-building initiatives and sustained professional development programs must be conducted to equip teachers with the requisite competencies in digital pedagogy. In addition, the Department of Education may explore the integration of this framework into the Senior High School curriculum, in alignment with national educational priorities on digital literacy and academic excellence. Future research should validate and refine the framework by examining its applicability and effectiveness across various learning areas, grade levels, and diverse learner contexts.

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